



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,427	01/10/2002	Yi-Ping Hsin	STL10533/40176.72USU1	1328

7590 01/06/2005

David K Lucente  
Seagate Technology LLC  
Intellectual Property Dept COL2LGL  
389 Disc Drive  
Longmont, CO 80503

EXAMINER

OLSON, JASON C

ART UNIT PAPER NUMBER

2651

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/043,427

Applicant(s)

HSIN ET AL.

Examiner

Jason C Olson

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 14-21 is/are allowed.
- 6) ☒ Claim(s) 8,9 and 12 is/are rejected.
- 7) ☒ Claim(s) 10,11 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This office action is in response to the amendment filed on 08/30/2004.

### ***Claim Objections***

Claim 13 is objected to because of the following informalities: Fails to define the variables in the equation. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ju et al. (6,614,615), referred to as Ju.

Regarding claim 8, Ju et al. teaches a controller for executing servo programs that include a table ROM (or memory) that contains a shaped position profile (or VCM response parameters) that moves the transducer along a modeled position profile (or ideal VCM plant); an adaptive control block (or measuring module) that determines the plant's actual frequency response (or actual VCM plant response); a notch filter (or equalization filter as described on page 6, lines 14-15 of the instantaneous specification) that dampens mechanical resonance of the plant's actual

Art Unit: 2651

frequency response, where the adaptive control block defined the modeling error, or error between the modeled position profile and the actual response (see col. 5, ln. 19-61, col. 6, ln. 5-53, and col. 12, ln. 1-36; it is obvious to an artisan in the art that in an ideal VCM plant there are no resonance modes, so therefore the notch filter will filter one or more resonance modes that are in the actual VCM plant but are not in the ideal VCM plant).

Regarding claims 9 and 12, Ju et al. further teaches a state machine that determines the parameters of the notch filter (or transfer function) is a combination of the ideal and actual plant response (see col. 12, ln. 20-65; It is known in the art that a notch filter is a discrete-time domain filter that is defined by state-space variables).

#### *Allowable Subject Matter*

Claims 10, 11 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-7, 14-21 allowed for the reasons given in the prior office action.

#### *Response to Arguments*

Applicant's arguments, see pages 8 and 9, filed 08/30/04, with respect to the rejection(s) of claim(s) 8, 9, and 12 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made under 35 U.S.C. 103(a) as being unpatentable over Ju et al. (6,614,615). Regarding claim 8, the Applicant argues that Ju fails to identically teach the notch

Art Unit: 2651

filter to filter one or more resonance modes that are in the actual VCM plant response but are not in the ideal VCM plant response. The Examiner agrees that Ju does not identically show the invention, but it would be obvious to an artisan the art that in an ideal VCM plant there are no resonance modes, so therefore the notch filter will filter one or more resonance modes that are in the actual VCM plant but are not in the ideal VCM plant.

### *Conclusion*


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason C Olson whose telephone number is 703.305.8325. The examiner can normally be reached on Monday thru Thursday 7:30-5:30; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703)308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCO 

December 28, 2004

  
**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**